



Software Requirements Specification for RoCam:
subtitle describing software

Team #3, SpaceY

Zifan Si

Jianqing Liu

Mike Chen

Xiaotian Lou

September 27, 2025

Contents

1	Purpose of the Project	v
1.1	User Business	v
1.2	Goals of the Project	v
2	Stakeholders	v
2.1	Client	v
2.2	Customer	v
2.3	Other Stakeholders	v
2.4	Hands-On Users of the Project	v
2.5	Personas	v
2.6	Priorities Assigned to Users	v
2.7	User Participation	v
2.8	Maintenance Users and Service Technicians	v
3	Mandated Constraints	vi
3.1	Solution Constraints	vi
3.2	Implementation Environment of the Current System	vi
3.3	Partner or Collaborative Applications	vi
3.4	Off-the-Shelf Software	vi
3.5	Anticipated Workplace Environment	vi
3.6	Schedule Constraints	vi
3.7	Budget Constraints	vi
3.8	Enterprise Constraints	vi
4	Naming Conventions and Terminology	vi
4.1	Glossary of All Terms, Including Acronyms, Used by Stakeholders involved in the Project	vi
5	Relevant Facts And Assumptions	vii
5.1	Relevant Facts	vii
5.2	Business Rules	vii
5.3	Assumptions	vii
6	The Scope of the Work	vii
6.1	The Current Situation	vii
6.2	The Context of the Work	vii
6.3	Work Partitioning	vii
6.4	Specifying a Business Use Case (BUC)	vii
7	Business Data Model and Data Dictionary	vii
7.1	Business Data Model	vii
7.2	Data Dictionary	vii

8	The Scope of the Product	viii
8.1	Product Boundary	viii
8.2	Product Use Case Table	viii
8.3	Individual Product Use Cases (PUC's)	viii
9	Functional Requirements	viii
9.1	Functional Requirements	viii
10	Look and Feel Requirements	viii
10.1	Appearance Requirements	viii
10.2	Style Requirements	viii
11	Usability and Humanity Requirements	viii
11.1	Ease of Use Requirements	viii
11.2	Personalization and Internationalization Requirements	viii
11.3	Learning Requirements	viii
11.4	Understandability and Politeness Requirements	ix
11.5	Accessibility Requirements	ix
12	Performance Requirements	ix
12.1	Speed and Latency Requirements	ix
12.2	Safety-Critical Requirements	ix
12.3	Precision or Accuracy Requirements	ix
12.4	Robustness or Fault-Tolerance Requirements	ix
12.5	Capacity Requirements	ix
12.6	Scalability or Extensibility Requirements	ix
12.7	Longevity Requirements	ix
13	Operational and Environmental Requirements	ix
13.1	Expected Physical Environment	ix
13.2	Wider Environment Requirements	x
13.3	Requirements for Interfacing with Adjacent Systems	x
13.4	Productization Requirements	x
13.5	Release Requirements	x
14	Maintainability and Support Requirements	x
14.1	Maintenance Requirements	x
14.2	Supportability Requirements	x
14.3	Adaptability Requirements	x
15	Security Requirements	x
15.1	Access Requirements	x
15.2	Integrity Requirements	x
15.3	Privacy Requirements	x
15.4	Audit Requirements	xi
15.5	Immunity Requirements	xi

16 Cultural Requirements	xi
16.1 Cultural Requirements	xi
17 Compliance Requirements	xi
17.1 Legal Requirements	xi
17.2 Standards Compliance Requirements	xi
18 Open Issues	xi
19 Off-the-Shelf Solutions	xi
19.1 Ready-Made Products	xi
19.2 Reusable Components	xi
19.3 Products That Can Be Copied	xi
20 New Problems	xii
20.1 Effects on the Current Environment	xii
20.2 Effects on the Installed Systems	xii
20.3 Potential User Problems	xii
20.4 Limitations in the Anticipated Implementation Environment That May In-	
hibit the New Product	xii
20.5 Follow-Up Problems	xii
21 Tasks	xii
21.1 Project Planning	xii
21.2 Planning of the Development Phases	xii
22 Migration to the New Product	xii
22.1 Requirements for Migration to the New Product	xii
22.2 Data That Has to be Modified or Translated for the New System	xii
23 Costs	xiii
24 User Documentation and Training	xiii
24.1 User Documentation Requirements	xiii
24.2 Training Requirements	xiii
25 Waiting Room	xiii
26 Ideas for Solution	xiii

Revision History

Date	Version	Notes
Date 1	1.0	Notes
Date 2	1.1	Notes

1 Purpose of the Project

1.1 User Business

Insert your content here.

1.2 Goals of the Project

Insert your content here.

2 Stakeholders

2.1 Client

Insert your content here.

2.2 Customer

Insert your content here.

2.3 Other Stakeholders

Insert your content here.

2.4 Hands-On Users of the Project

Insert your content here.

2.5 Personas

Insert your content here.

2.6 Priorities Assigned to Users

Insert your content here.

2.7 User Participation

Insert your content here.

2.8 Maintenance Users and Service Technicians

Insert your content here.

3 Mandated Constraints

3.1 Solution Constraints

Insert your content here.

3.2 Implementation Environment of the Current System

Insert your content here.

3.3 Partner or Collaborative Applications

Insert your content here.

3.4 Off-the-Shelf Software

Insert your content here.

3.5 Anticipated Workplace Environment

Insert your content here.

3.6 Schedule Constraints

Insert your content here.

3.7 Budget Constraints

Insert your content here.

3.8 Enterprise Constraints

Insert your content here.

4 Naming Conventions and Terminology

4.1 Glossary of All Terms, Including Acronyms, Used by Stakeholders involved in the Project

Insert your content here.

5 Relevant Facts And Assumptions

5.1 Relevant Facts

Insert your content here.

5.2 Business Rules

Insert your content here.

5.3 Assumptions

Insert your content here.

6 The Scope of the Work

6.1 The Current Situation

Insert your content here.

6.2 The Context of the Work

Insert your content here.

6.3 Work Partitioning

Insert your content here.

6.4 Specifying a Business Use Case (BUC)

Insert your content here.

7 Business Data Model and Data Dictionary

7.1 Business Data Model

Insert your content here.

7.2 Data Dictionary

Insert your content here.

8 The Scope of the Product

8.1 Product Boundary

Insert your content here.

8.2 Product Use Case Table

Insert your content here.

8.3 Individual Product Use Cases (PUC's)

Insert your content here.

9 Functional Requirements

9.1 Functional Requirements

Insert your content here.

10 Look and Feel Requirements

10.1 Appearance Requirements

Insert your content here.

10.2 Style Requirements

Insert your content here.

11 Usability and Humanity Requirements

11.1 Ease of Use Requirements

Insert your content here.

11.2 Personalization and Internationalization Requirements

Insert your content here.

11.3 Learning Requirements

Insert your content here.

11.4 Understandability and Politeness Requirements

Insert your content here.

11.5 Accessibility Requirements

Insert your content here.

12 Performance Requirements

12.1 Speed and Latency Requirements

Insert your content here.

12.2 Safety-Critical Requirements

Insert your content here.

12.3 Precision or Accuracy Requirements

Insert your content here.

12.4 Robustness or Fault-Tolerance Requirements

Insert your content here.

12.5 Capacity Requirements

Insert your content here.

12.6 Scalability or Extensibility Requirements

Insert your content here.

12.7 Longevity Requirements

Insert your content here.

13 Operational and Environmental Requirements

13.1 Expected Physical Environment

Insert your content here.

13.2 Wider Environment Requirements

Insert your content here.

13.3 Requirements for Interfacing with Adjacent Systems

Insert your content here.

13.4 Productization Requirements

Insert your content here.

13.5 Release Requirements

Insert your content here.

14 Maintainability and Support Requirements

14.1 Maintenance Requirements

Insert your content here.

14.2 Supportability Requirements

Insert your content here.

14.3 Adaptability Requirements

Insert your content here.

15 Security Requirements

15.1 Access Requirements

Insert your content here.

15.2 Integrity Requirements

Insert your content here.

15.3 Privacy Requirements

Insert your content here.

15.4 Audit Requirements

Insert your content here.

15.5 Immunity Requirements

Insert your content here.

16 Cultural Requirements

16.1 Cultural Requirements

Insert your content here.

17 Compliance Requirements

17.1 Legal Requirements

Insert your content here.

17.2 Standards Compliance Requirements

Insert your content here.

18 Open Issues

Insert your content here.

19 Off-the-Shelf Solutions

19.1 Ready-Made Products

Insert your content here.

19.2 Reusable Components

Insert your content here.

19.3 Products That Can Be Copied

Insert your content here.

20 New Problems

20.1 Effects on the Current Environment

Insert your content here.

20.2 Effects on the Installed Systems

Insert your content here.

20.3 Potential User Problems

Insert your content here.

20.4 Limitations in the Anticipated Implementation Environment That May Inhibit the New Product

Insert your content here.

20.5 Follow-Up Problems

Insert your content here.

21 Tasks

21.1 Project Planning

Insert your content here.

21.2 Planning of the Development Phases

Insert your content here.

22 Migration to the New Product

22.1 Requirements for Migration to the New Product

Insert your content here.

22.2 Data That Has to be Modified or Translated for the New System

Insert your content here.

23 Costs

Insert your content here.

24 User Documentation and Training

24.1 User Documentation Requirements

Insert your content here.

24.2 Training Requirements

Insert your content here.

25 Waiting Room

Insert your content here.

26 Ideas for Solution

Insert your content here.

Appendix — Reflection

The purpose of reflection questions is to give you a chance to assess your own learning and that of your group as a whole, and to find ways to improve in the future. Reflection is an important part of the learning process. Reflection is also an essential component of a successful software development process.

Reflections are most interesting and useful when they're honest, even if the stories they tell are imperfect. You will be marked based on your depth of thought and analysis, and not based on the content of the reflections themselves. Thus, for full marks we encourage you to answer openly and honestly and to avoid simply writing “what you think the evaluator wants to hear.”

Please answer the following questions. Some questions can be answered on the team level, but where appropriate, each team member should write their own response:

1. What went well while writing this deliverable?
2. What pain points did you experience during this deliverable, and how did you resolve them?
3. How many of your requirements were inspired by speaking to your client(s) or their proxies (e.g. your peers, stakeholders, potential users)?
4. Which of the courses you have taken, or are currently taking, will help your team to be successful with your capstone project.
5. What knowledge and skills will the team collectively need to acquire to successfully complete this capstone project? Examples of possible knowledge to acquire include domain specific knowledge from the domain of your application, or software engineering knowledge, mechatronics knowledge or computer science knowledge. Skills may be related to technology, or writing, or presentation, or team management, etc. You should look to identify at least one item for each team member.
6. For each of the knowledge areas and skills identified in the previous question, what are at least two approaches to acquiring the knowledge or mastering the skill? Of the identified approaches, which will each team member pursue, and why did they make this choice?